

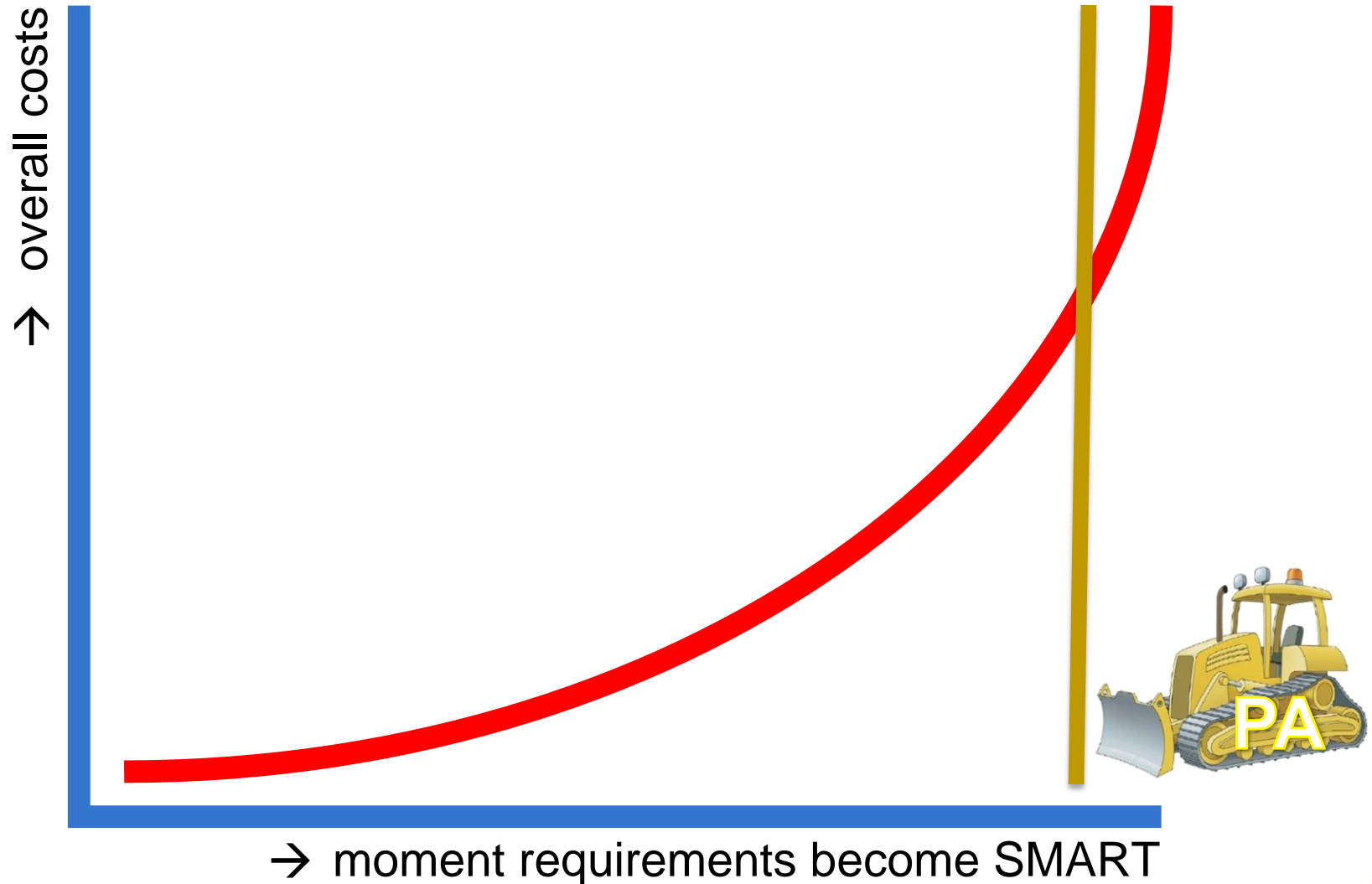
# Process Acceleration SMART Requirements

100% SMART Requirements and Specifications ...guaranteed!

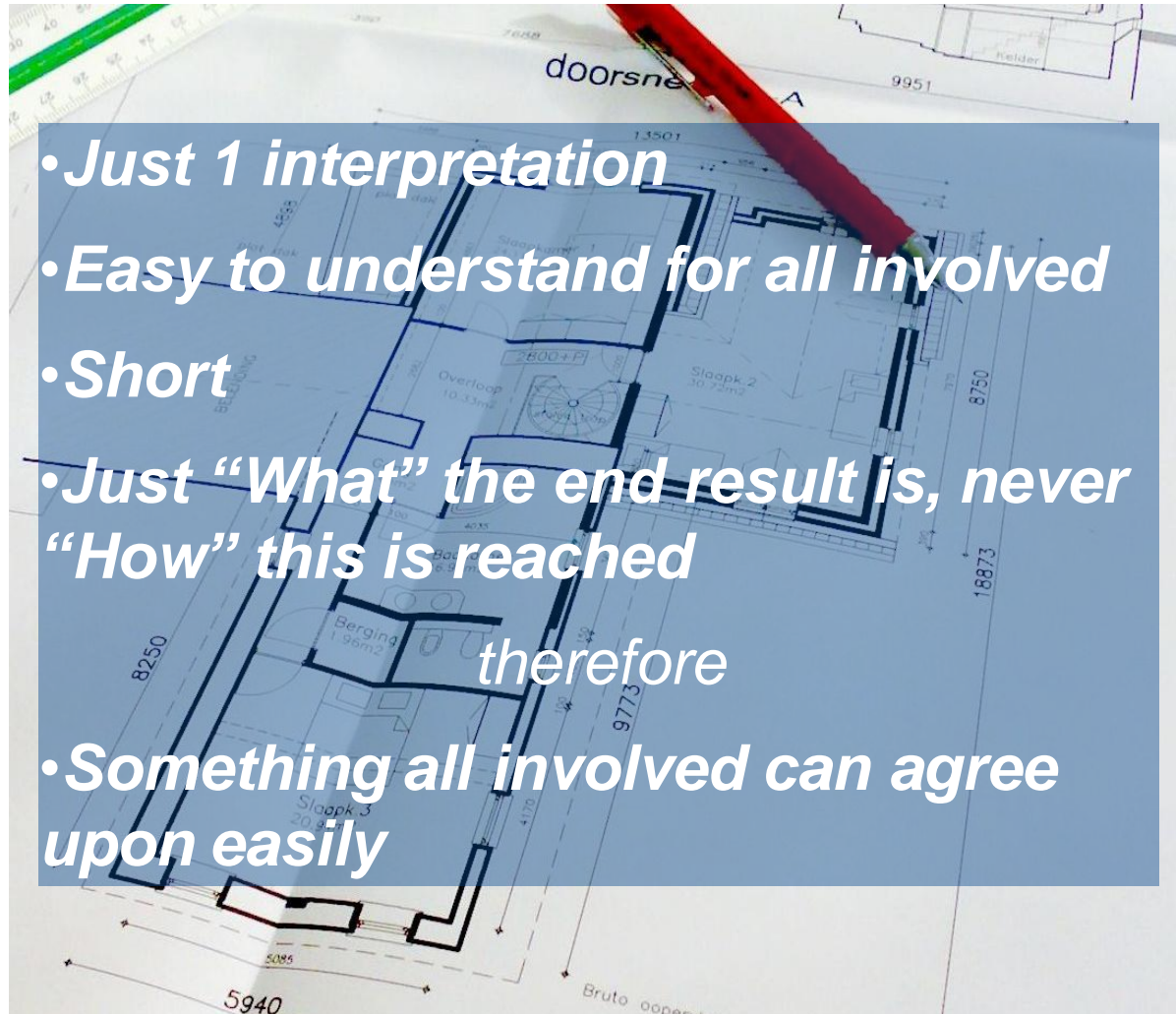
by Drs. Edwin H.A. Hendriks



(Field) research has shown: SMART saves money



# Getting SMARTness early: Just like a blue print



# The solution

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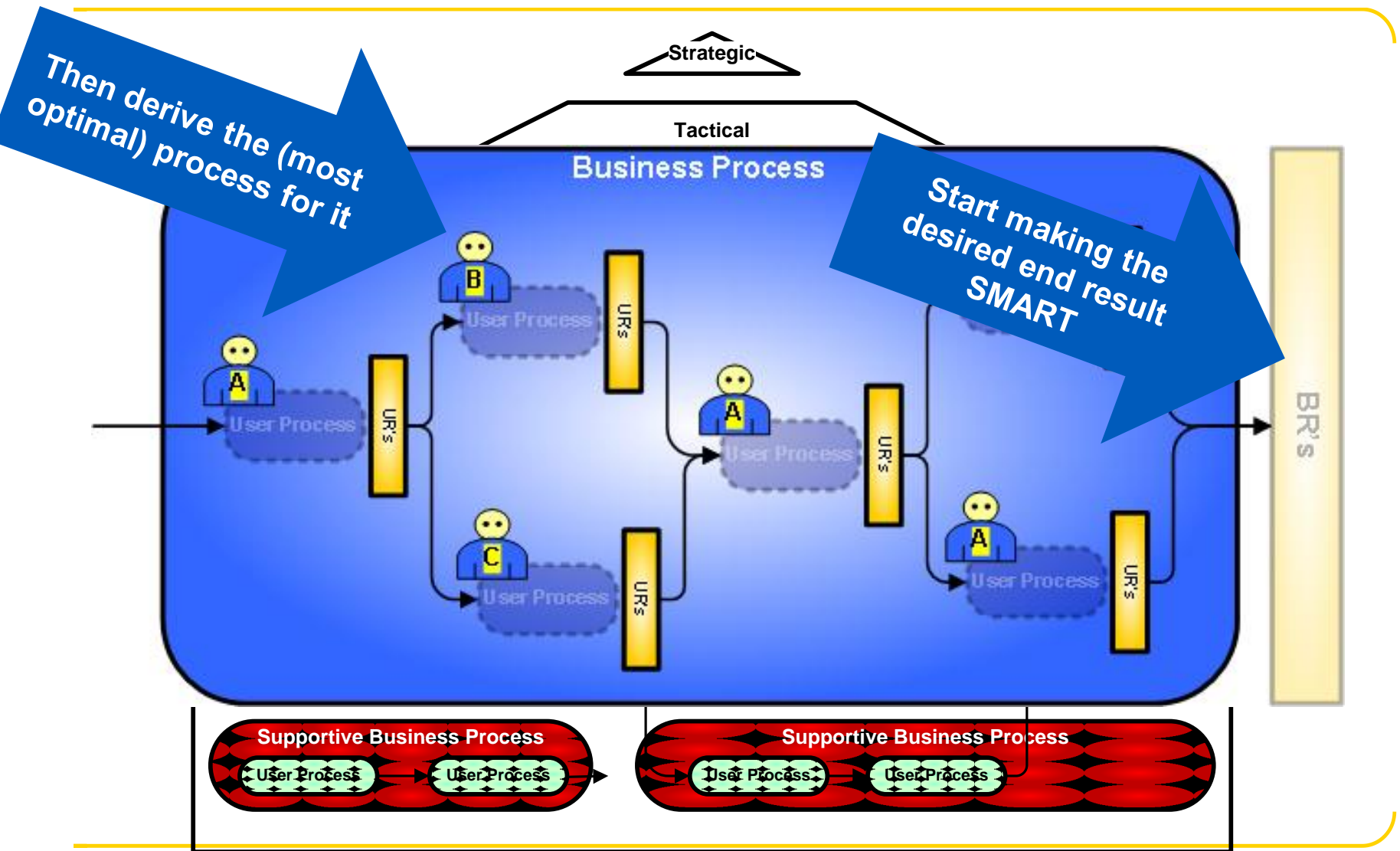
## Use PA notation, which is:

- *A requirements specification language*
- *Which leaves no room for different interpretations*
- *Which can be understood by all stakeholders*
- *Which is short*
- *Which is fully declarative (just the "What" , never the "How")*

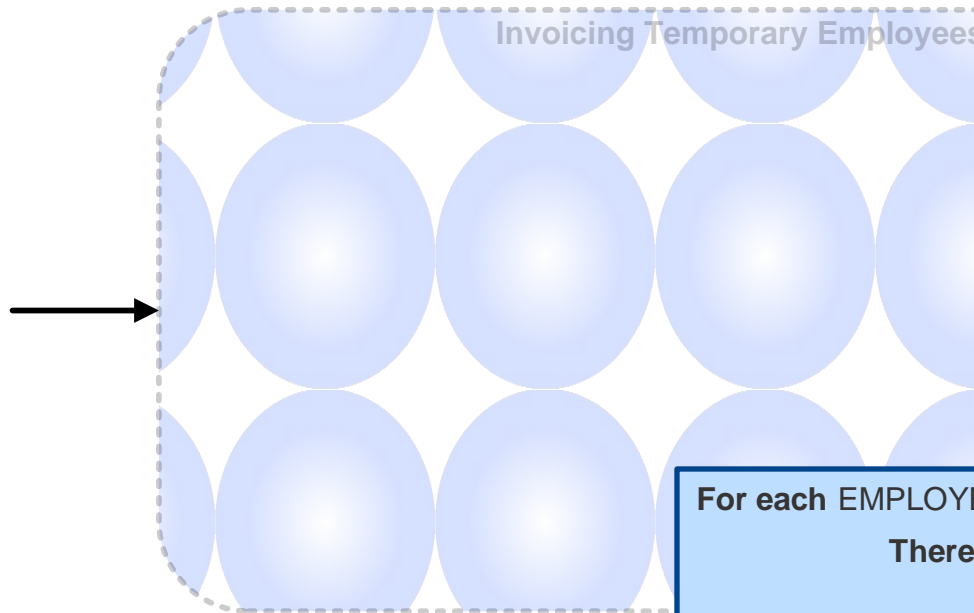
## Use PA SMART Requirements, which is:

- *A method*
- *That show how to use PA notation*
- *Within an (existing) Business & ICT development process*

# Using this solution



# Example: Business Requirements “Invoicing”



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The Netherlands  
T: +31 (0)88 5650 030  
www.logica.com

FACTUUR

<K.naam>  
<K.adres>  
<K.postcode> <K.plaats>  
Contactpersoon: <K.contactpersoon>

Debitum: <K.debitumnummer>	Factuurnummer: <F.nummer>	Factuurdatum: <F.datum>
Omschrijving	Datum	Houweelheid
		Eenh
		Priis Eenh (EUR)
		Bedrag (EUR)

f"factuuregels">

<"consultant rollen">

Total exclusief BTW	EUR	<F.totaalbedrag_factuur * 0,81>
Total BTW 19%	EUR	<F.totaalbedrag_factuur * 0,19>
Total	EUR	<F.totaalbedrag_factuur>

Bij betaling a.v.g. vermelden: SIP: <F.nummer>  
Betalingsovereenkomst: Netto binnen 30 dagen  
BTW nummer: NL003386400B01  
Rekeningnummer: 4444444444444444

**For each EMPLOYEE in EMPLOYEES applies:**

**There exists a SHEET in TIMESHEETS with:**

year, month = **input from EMPLOYEE**

approved = **input from CUSTOMER**

**based on [SHEET.\*, LINES.\*]**

**and**

**There exists several LINES in TIMESHEET\_LINES with:**

day, task, hours = **input from EMPLOYEE**

**PART\_OF = T**

# Exam

# process and ICT from BR's


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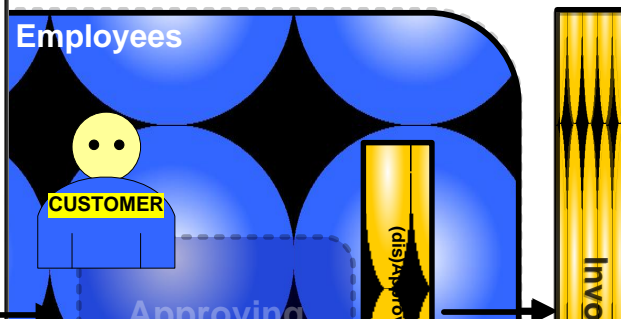
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Contactpersoon: <K.contactpersoon>

Debituur: <K.debituurnummer> Factuurnummer: <F.nummer> Factuurdatum: <F.datum>

Omschrijving	Datum	Hoofdebedrag	Resh	Pris Resh (EUR)	Bedrag (EUR)
<F.actuuregels>					
<"consultant rollen">					
					
Total exclusief BTW		EUR	<F.totaalbedrag_factor * 0,81>		
Total BTW 19%		EUR	<F.totaalbedrag_factor * 0,19>		
Total		EUR	<F.totaalbedrag_factor>		

Bij betaling v.p.v. vermelden: SIP: <F.nummer>  
Betalingsovereenkomst: NL003194600001  
BTW nummer: 63661748 D G Sink  
BIC: INGBNL2A



Year:   
Month:

Day	Task	Location	Hours
1	PM for RVS	Amsterdam	8
2	Research	Arnhem	8
...	...	...	...
31	PM for RVS	Amsterdam	4
31	Dutch Test Co	Utrecht	4

Of employee: [edwin.hendriks@logica.com](mailto:edwin.hendriks@logica.com)

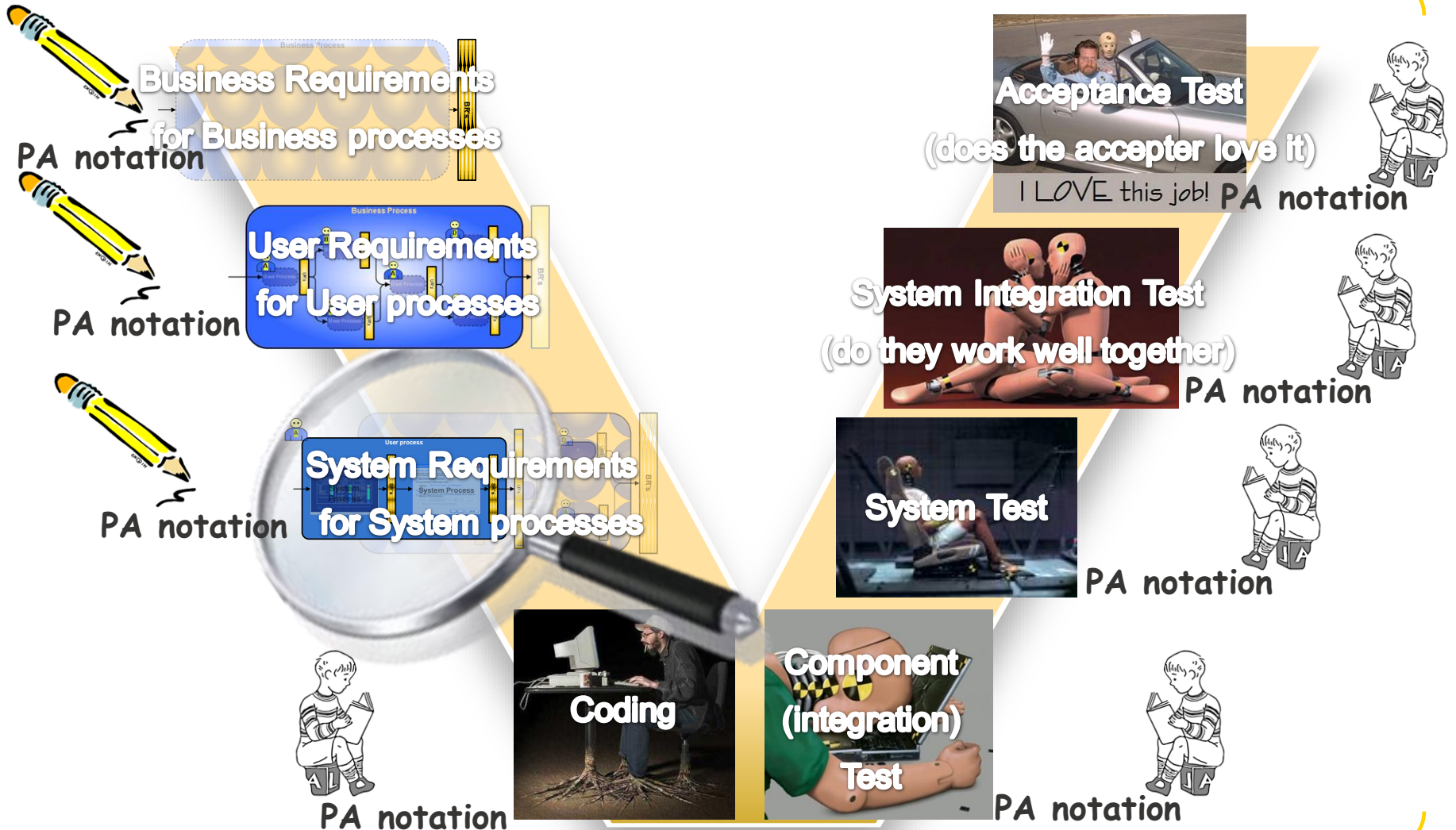
Year:   
Month:

Day	Task	Location	Hours
1	PM for RVS	Amsterdam	8
2	Research	Arnhem	8
...	...	...	...
31	PM for RVS	Amsterdam	4
31	Dutch Test Con	Utrecht	4

Approved?: ☒



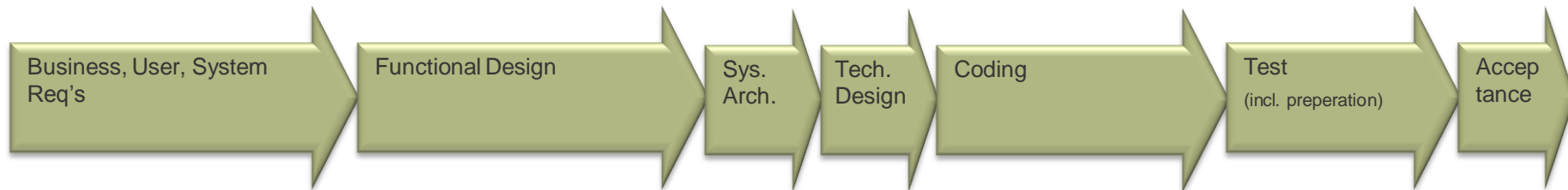
# Using PA SMART Requirements



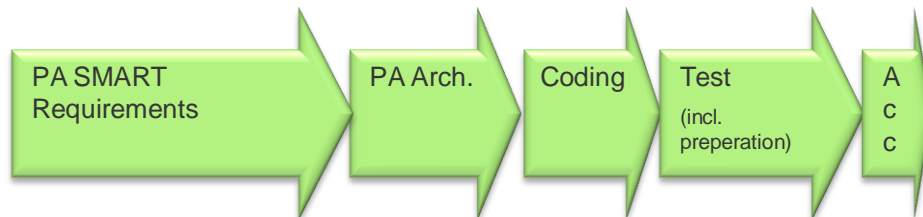


# Cost reductions made visual

## Business & ICT development without PA SMART Requirements



## Business & ICT development with PA SMART Requirements



# Cost reductions (measured at customers)

Year	Process type	FTE reduction (*)
2001	Taxes; System Development	66%
2003	Taxes; System Development	45%
2002	Banking; Insurances; System Development	66%
2002	Insurances; System Development	35%
2003	Insurances; System Development	66%
2004	Insurances; System Development	83%
2003	Insurances; System Development	50%
2005	Retail; System Development	35%
2006	System Development	60%
2006	Statistical; System Development	85%
2007	System Development	53%
2009	Local governments; System Development	45%

**With major quality improvement in all cases**

(\*) Results are measured against the old business process, multiple expert estimates combined with FPA counts

# Testimonials

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- *"Using the PA method in our case resulted in a clear unambiguous description of our desired functionality. It takes some getting used to, but then immediately provides the advantage because there are no more differences of interpretation. This has undoubtedly contributed greatly to the quality of the final delivered system"* - **Ruud van Eeghem - VROM \ Senter Novem**
- *"For me it was a new way of developing: I was very pleased with the project. It was a challenge to implement radical changes. Using the new method we could respond quickly and adequately to the proposed changes."* – **Irene Ritman – SZW**
- *"In 2002 I was confronted with the classic problem to develop a large set of requirements in a short time... We made it, because we organized a number of things: the requirements were made concrete and SMART, we defined them to the required level of detail... The result: On time and delivered according to required functionality."* – **Eric Pols – Nationale Nederlanden**



# Complex Example (with insurance calculations)

- Document **[B-Specs Sell Policy]** bevat de volgende definities:

There applies:

“There is a sold policy”

and

“There is a policy sheet”

The diagram illustrates a red arrow pointing from the text "There is a policy sheet" to a form titled "de verzekerde voor". The form contains the following text:

<P.PRODUCT.naam>

Polisnummer <P.polisnummer>

Deze polis heeft als ingangsdatum <P.datum\_ingang\_verzekering>.

Verzekeringnemer: <P.VERZEKERINGNEMER.achternaam> <P.VERZEKERINGNEMER.voorletters> geboren <P.VERZEKERINGNEMER.geboortedatum>

Verzekerde : <P.VERZEKERDE.voornaam> <P.VERZEKERDE.achternaam> geboren <P.VERZEKERDE.geboortedatum>

Begunstigde(n) :

1. de verzekeringsnemer
2. de echtgenoot van de verzekeringnemer
3. de kinderen van de verzekeringnemer
4. de erfgenamen van de verzekeringnemer

Aan de begunstigde(n) wordt uitgekeerd:

€ <P.bedrag\_verzekerd>,- meteen na overlijden van de verzekerde voor <P.datum\_einde\_verzekering>

de verzekerde voor

€ <POLICY.gross\_installment\_premium> (€

begrepen toeslagpremie voor de aanvullen

dsongeschiktheid.

# Complex Example (with insurance calculations)

- Document **[B-Specs Sell Policy]** bevat de volgende definities:

There applies:

“There is a sold policy”  
and  
“There is a policy sheet”

“The sold policy” =

There exists a POLICY in POLICIES with:

CUSTOMER,

insured\_amount, ..., ..., ... = input from AGENT + CUSTOMER

gross\_installment\_premium = “gross installment premium”

“gross installment premium” =

[Specs Gross Installment Premium]: “Gross Installment Premium”

# Complex Example (with insurance calculations)

- Document **[Specs Gross Installment Premium]** (Bruto termijn premie) bevat:

“Gross Instalment Premium” =

((“Basic Premium” – “Discount” + “Surcharge”) \* “Installment factor”).rounded(2)

–

Staff discount”.rounded(2)

“Basic premium” = “Elementary premium” + “Reduction”

“Elementary premium” =

1.088 \* COVERAGE.verzekerd\_bedrag \* ( 1 + “p” + ( “n” / (“t”+1)) \* “y3” ) \* “Npe” +

(“Acquisiti”) / “äxt” + “Y(t)” \* “y1” + “NPAK” \* “f(wo)” /

“Incassokostenopslag”

“p” =

PREMIECALCULATIEVARIABELEN(

omschrijving = ‘Rokers opslag (p)’ en

dekkingsvorm = “Dekkingsvorm”).waarde

“n” = [Specification of Formula Agreements]:“n”

“t” = [Specification of Formula Agreements]:“t”

# Complex Example (with insurance calculations)

- Document **[Specs Formula Agreements]** bevat de volgende definities:

“n” =  $\text{COVERAGE.end} - \text{COVERAGE.start}$

“t” =  $\text{COVERAGE.AGREEMENTPART.PREMIUMPART.end.greatest} - \text{COVERAGE.start}$



In short

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*PA SMART Requirements makes Business & ICT  
Development much more efficient*



more info: [pa@logica.com](mailto:pa@logica.com) or +31 26 3 765400

## PA SMART Requirements in the near future

---

PA notation is a formal language

*ergo*

*PA SMART Requirements can be parsed  
(understood) by a computer*

*ergo*

*A computer can be programmed to  
automate many (manual) SD steps*

# PA SMART Requirements in the near future

the following can  
be automated:

Business Requirements  
for Business processes

Acceptance Test

(does the accepter love it)

I LOVE this job!

System Test

(do the system work)

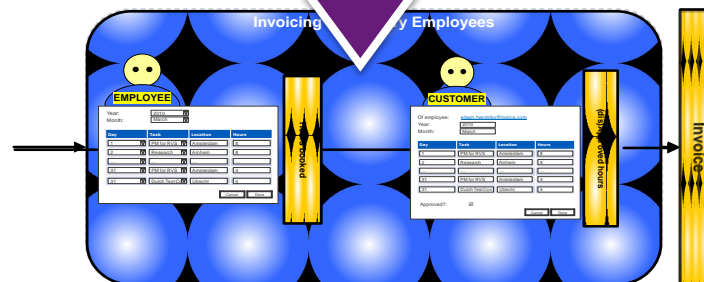
# The PA Generator: The fastest way of developing

## Business Requirements/Specifications



A screenshot of a business requirements document from Logica. It contains a table with columns for 'Entity', 'Attribute', 'Value', and 'Comments'. The table lists various attributes for 'EMPLOYEE' and 'CUSTOMER' entities, such as 'Year', 'Month', 'Day', 'Task', 'Hours', and 'Approved'. The document is titled 'Business Requirements' and includes a 'Logica' logo.

For each EMPLOYEE in EMPLOYEES applies:  
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approved = input from CUSTOMER  
based on [SHEET.\*, LINES.\*]  
and  
There exists several LINES in TIMESHEET\_LINES with:  
day, task, hours = input from EMPLOYEE  
PART\_OF = T



A complete working system